

REMARKS

Reconsideration and allowance of this application are respectfully requested. Claim 10 has been canceled. Claims 1, 3-6, 8 and 9 are now pending in the application. The rejections are respectfully submitted to be obviated in view of the remarks presented herein.

Rejection Under 35 U.S.C. § 103(a) - Kikuchi et al.

Claims 1, 8 and 9 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kikuchi et al. (U.S. Patent Number 6,885,616; hereinafter “Kikuchi”). The rejection is respectfully traversed.

The Examiner has asserted on page 3 of the Office Action that Kikuchi discloses an aberration correcting apparatus comprising a first aberration correction element (relying on Fig. 9, element 13) and a second aberration correction element (relying on Fig. 9, element 12).

However, Applicant respectfully submits that Kikuchi does not disclose the two aberration correction elements as Examiner has alleged. Specifically, the Examiner interprets that the phase device (12) of Kikuchi corresponds to the second aberration correction element as recited by claim 1. However, Kikuchi’s phase device (12) is merely a “polarization changing device,” and does not serve as an “aberration correction element” as claimed.

Kikuchi’s phase device (12) consists of two concentric phase regions, an inner region ARI and an outer region ARO (column 8, lines 47-60). The phase device (12) provides phase changes to the polarization of the light passing through the first phase area ARI and that of the light passing through the second phase area ARO, so that the phase difference (Δ) is equal to $(2m+1)*\lambda/2$ (column 8, line 61 to column 9, line 3).

The diameter of the first phase area ARI in Kikuchi is preset to be adapted to detect a focusing error, while the diameter of the second phase area ARO is preset to be adapted to detect a thickness error (a spherical aberration of a light transmitting layer) (column 9, lines 11-17). Therefore, the arrangement in Kikuchi to provide the phase difference Δ is aimed to suppress the interference between the inner light and the outer light (column 13, lines 16-26). As a consequence, high-precision focusing servo can be performed since the focusing error signal FE of high linearity is obtained (column 13, lines 33-39).

Thus, the phase device (12) of Kikuchi is different from the claimed second aberration correction element in both configuration and objective, and therefore fails to teach or suggest the claimed “second aberration correction element having a plurality of phase adjustment portions each generating an amount of phase change in the light beam, the amount corresponding to an adjustment signal and said second aberration correction element being integrally formed with said object lens so as to be in alignment with each other,” as recited by claim 1.

Kikuchi’s phase device (12) does not teach or suggest an aberration correction element having a plurality of phase adjustment portions, the phase-change amount being adjusted in accordance with the residual aberration after correction by the first aberration correction element, as claimed. In this way, the claimed second aberration correction element may finely correct aberration (residual aberration). The displacement between the object lens and the second aberration correction element is much more crucial in finely correcting aberration than the displacement between the object lens and a beam expander (i.e. the first aberration correction element). According to the claimed invention, the second aberration correction element is

formed integrally with the object lens so as to be in alignment with each other, providing an advantage of ability to perform high-precision correction.

Therefore, such a second aberration correction element as claimed is not taught or suggested by the phase device (12) of Kikuchi. At least by virtue of the aforementioned differences, the invention defined by Applicant's claim 1 is patentable over Kikuchi.

Applicant's claims 8 and 9 are dependent claims including all of the elements of independent claim 1, which as established above, distinguishes over Kikuchi. Therefore, claims 8 and 9 are distinguished over Kikuchi for at least the aforementioned reasons as well as for its additionally recited features. Reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) are respectfully requested.

Rejection Under 35 U.S.C. § 103(a) - Kikuchi et al. in view of Best et al.

Claims 3 and 4 have been rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Kikuchi in view of Best et al. (U.S. Patent Number 5,905,700; "Best"). The rejection is respectfully traversed.

Kikuchi fails to teach or suggest, *inter alia*, "a second aberration correction element having a plurality of phase adjustment portions each generating an amount of phase change in the light beam, the amount corresponding to an adjustment signal and said second aberration correction element being integrally formed with said object lens so as to be in alignment with each other," as recited by claim 1. Best does not remedy the deficiencies of Kikuchi. Best discloses a multiple data surface aberration compensator as shown in Figure 14, however, there is also no teaching or suggestion in Best of a second aberration correction element as claimed.

At least by virtue of the aforementioned differences, the invention defined by Applicant's claim 1 is patentable over Kikuchi in view of Best. Claims 3 and 4 are dependent claims including all of the elements of independent claim 1. Therefore, claims 3 and 4 are distinguished over Kikuchi in view of Best for at least the aforementioned reasons as well as for their additionally recited features. Reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) are respectfully requested.

Rejection Under 35 U.S.C. § 103(a) - Kikuchi et al. in view of Ueda et al.

Claims 5 and 6 have been rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Kikuchi in view of Ueda et al. (U.S. Patent Number 6,418,108; "Ueda"). The rejection is respectfully traversed.

Kikuchi fails to teach or suggest, *inter alia*, "a second aberration correction element having a plurality of phase adjustment portions each generating an amount of phase change in the light beam, the amount corresponding to an adjustment signal and said second aberration correction element being integrally formed with said object lens so as to be in alignment with each other," as recited by claim 1. Ueda does not remedy the deficiencies of Kikuchi. Ueda discloses an optical head used for recording and/or reproducing an information recording medium, the optical head including a collimator lens (13) as shown in Figure 1, however, there is also no teaching or suggestion in Ueda of a second aberration correction element as claimed. At least by virtue of the aforementioned differences, the invention defined by Applicant's claim 1 is patentable over Kikuchi in view of Ueda. Claims 5 and 6 are dependent claims including all of the elements of independent claim 1. Therefore, claims 5 and 6 are distinguished over Kikuchi

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in view of Ueda for at least the aforementioned reasons as well as for its additionally recited features. Reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) are respectfully requested.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.


Respectfully submitted,

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